Taking perspective in conversation: the role of mutual knowledge in comprehension Keysar et al. (2000)

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Goal

- look at mental processes that underlie perspective taking in comprehension
- people do not restrict the search for referents to mutually known objects, also consider objects the speaker cannot see
- motivation given by Keysar et al.

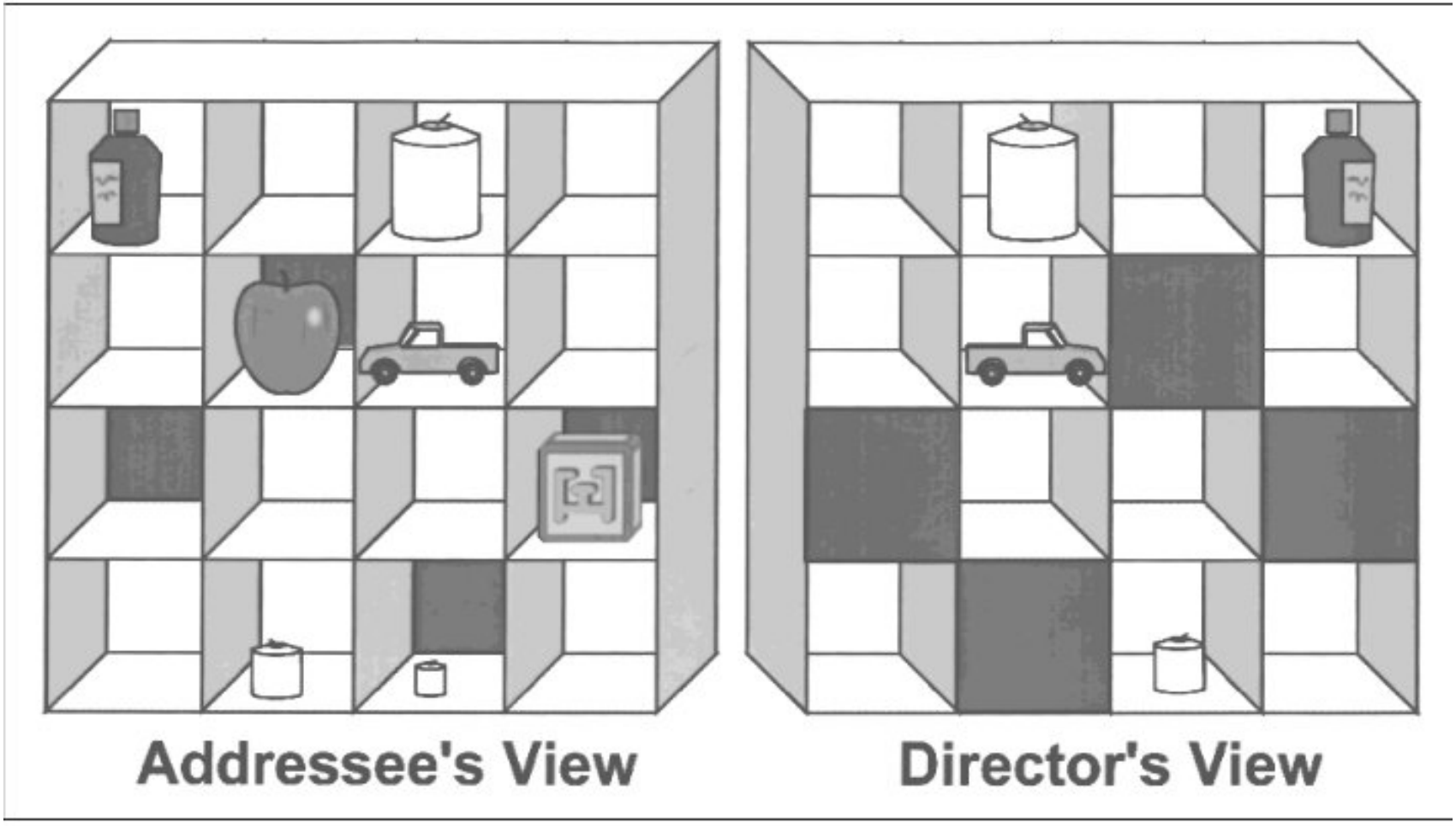
Hypotheses

- a) addressees occasionally use an egocentric strategy, considering potential referents even when they know that these referents are inaccessible to the speaker
- b) mutual knowledge is used to correct interpretation errors that result from such an egocentric interpretation

Predictions

- if addressees use an egocentric strategy this could interfere with their ability to detect the shared, intended referent $\rightarrow$ leads to systematic errors
- an experiment is set up to discover these systemtic errors

Setup



Conditions

- test condition
  - three items which are very similar and differ along one dimension (eg. size: three candles, large, middle, small)
- control condition
  - different object in occluded spot $\rightarrow$ not a potential referent to the critical utterance
  - eg. small toy monkey instead of smallest candle

Results

Table 1. *Mean number of fixations on the occluded object and their mean summed duration*

	Experiment 1		Experiment 2	
Measure	Test	Control	Test	Control
Number of fixations	1.01 (1.16)	0.65 (0.91)	0.90 (0.98)	0.33 (0.65)
Total fixation time (ms)	420 (576)	178 (284)	452 (656)	106 (278)

Note. Standard deviations are in parentheses.

- fixation of occluded spots almost three times more often in the test condition than in the control condition
- fixations of occluded spot 346ms longer in the test condition than in control condition
- $\rightarrow$ addressees considered the occluded object as a potential referent in the test condition

Results

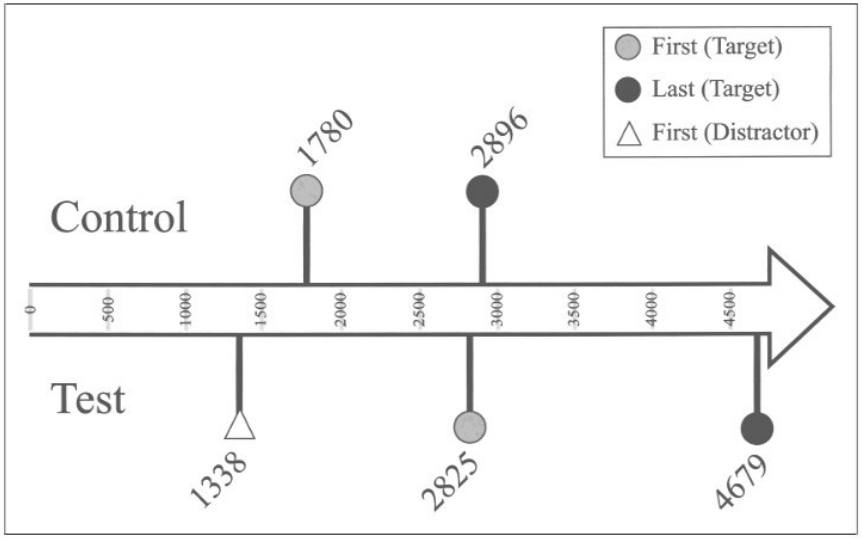


Fig. 3. Time line of eye fixations in Experiment 2, showing average latencies (in milliseconds) following the critical noun phrase (point 0).

- occluded object fixated 1,487 ms before the target object in the test condition
- presence of occluded referent delayed first fixation on the target object by 1,045 ms
- final fixation on target delayed by 1,783ms
- $\rightarrow$ decision lag between the first and last fixation $=$ 738ms longer in the test condition than in the control condition

Results

- in 20% of the cases addressees reached for (5%) or grabbed (15%) the occluded referent
- reach for occluded referent only once in test condition
- $\rightarrow$ addressees occasionally used an egocentric interpretation strategy
- addressees tried to focus on shared objects before critical instruction

Results

Implications on role of common ground

- reduces the probability of considering a non-shared object
- allows error correction when referent which are not common grounds are considered initially

Advantages & disadvantages of egocentric strategy

- minimal cognitive effort for addressee
- collaborative nature of conversation $\rightarrow$ addressee can be lazy, because speaker will correct
- benefit of egocentric interpretation vs. cost of making an error

Discussion

- very artificial motivation of the problem
- common ground seems to be reduced to space & objects
- object which is not common ground = very salient
- common ground less important, co-presence more important